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ABSTRACT

This study evaluated the effectiveness of a two-semester junior college reading program designed to train teacher aides to assist professionals in reading programs. Descriptive data, including scores on the San Antonio College Test for Reading Aides and the Nelson-Denny Reading test, were gathered for 96 teacher aides. Analysis of posttests using the same measures indicated a significant improvement in reading ability and an increase in proficiencies associated with the teaching of reading for members of the teacher aide training program as compared to a control group. In addition, kindergarten and grade-one students receiving paraprofessional assistance reflected a greater increase in language ability as measured by the Tests of Basic Experience than did students of the same grade level who were instructed by untrained aides. Similarly, grade-two students receiving paraprofessional assistance showed a substantial gain in language and reading ability as measured by the Comprehensive Tests of Basic Skills, as opposed to grade-two students receiving help from untrained aides. (KS)

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DEVELOPMENT AND EVALUATION OF A JUNIOR COLLEGE READING PROGRAM TO TRAIN TEACHER AIDES

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DEVELOPMENT AND EVALUATION OF A JUNIOR COLLEGE READING PROGRAM TO TRAIN TEACHER AIDES

Marcia G. Epner, Ph.D.

The purpose of this study was to evaluate the effectiveness of a two-semester junior college reading program designed to train teacher aides to assist teachers in teaching reading to pupils.

Review of the Literature Related to this Study

The survey of the literature revealed that the year 1967 was a critical turning point in the history of the teacher aide movement in the United States. Whereas prior to that time the teacher aide movement was unorganized and unsystematic, during 1967 efforts were directed toward the organized and systematic utilization of this pool of paraprofessionals. Aides of various kinds were used to carry out a number of different kinds of tasks in a variety of educational and non-educational settings. Most training of the aides was left to the teachers to whom the aides were assigned (Schmidt, 1971 and Lichtman, 1971). Suggestions were made that aides might be better trained by institutions of higher learning, preferably by junior colleges (Thurman, 1969 and Merchant, 1972). The literature further suggested that aides might be trained to assist teachers in the teaching of reading (Pope, 1970 and Rauch, 1970).

Another concern related to the low level of the communication skills of the aides themselves (Bowman & Klopf, 1969 and Shanker, 1973). Some research findings suggested that effective learning could take place if a learner taught what he was learning. The reasons given for this were that in order to teach, one must structure, organize, and overlearn the material, thereby learning more about it. Evaluation of specific tutoring programs showed that positive gains accrued to the one who did the teaching as well as to the one who was taught (Gartner & Kohler, 1971 and Dreyer, 1973). This suggested the possibility to this researcher that training teacher aides to teach reading to children might help increase the reading skills of the aides themselves.

The literature also revealed that while there were many evaluations of

teacher aide effectiveness, there was a dearth of objective evaluations of teacher aide effectiveness as reflected through student achievement. No study was found that quantitatively assessed the relationship between aides' successful completion of a specific program of study and the reading achievement of students.

Procedures Used

This researcher identified two groups of teacher aides, one of which received specific inservice training in reading fundamentals, diagnosis, and remediation, and the other of which received no specific training in reading during the 1974-75 school year. In the spring of the 1973-74 school year, this researcher visited the Superintendent of Edgewood Schools in San Antonio, Texas. At this time he was concerned with the level of reading achievement in his school district and was seeking ways to improve it at all grade levels. For this reason, he accepted for the district the offer of aide training to commence in the fall semester of the 1974-75 school year. The Associate Superintendent was assigned the task of working out the physical and financial arrangements with San Antonio College. In August, 1974, sixty-three Edgewood teacher aides registered for Reading 301 (Fundamentals) at San Antonio College. Training commenced in August, 1974 and terminated in December, 1974. In January, 1975, all sixty-three teacher aides registered for Reading 302 (Diagnosis and Remediation). Training commenced in January, 1975, and terminated in May, 1975. Forty-four other Edgewood teacher aides desired said training but because of fixed federal funding could not enter the program at that time. The administration promised this group of forty-four identical training during the next school year (1975-76). This researcher used as her sample 107 Edgewood teacher aides desiring training; she designated as Experimental the sixty-three in the 1974-75 training program and Control the other forty-four.

In September, 1974, all pretesting was accomplished. A San Antonio College reading instructor (not this researcher) administered a criterion

referenced test. The San Antonio College Test for Reading Aides, and Nelson-Denny Reading Test, Form A, to the 107 teacher aides. Edgewood classroom teachers administered the Tests of Basic Experiences (TOBE), Form K, to Kindergarten children, TOBE, Form L, to first grade children, and The Comprehensive Tests of Basic Skills (CTBS), Form Q1, to grade two children. Criterion referenced pretest data were analyzed, using random groups t-test to compare mean scores of Experimental and Control group aides. Statistical decision rule of .05 was used and t-values were not significant. Therefore, groups were comparable for purposes of this study.

Experimental and Control group teacher aides assisting in K-2 classrooms were carefully identified. Pretest printouts of these class scores were extracted from Edgewood files, students' names covered, and scores xeroxed.

In April and May, 1975, all posttesting was accomplished. The same San Antonio College reading instructor who pretested teacher aides, administered in May, The San Antonio College Test for Reading Aides, and Nelson-Denny, Form B, to 96 teacher aides. Four of Experimental and seven of Control groups did not appear for posttesting. These aides were eliminated from the study. In April, 1975, Edgewood classroom teachers administered the TOBE, Form K, to kindergarten children, TOBE, Form L, to first grade children, and CTBS, Form Q1, to grade two children. Posttest printouts of identified K-2 classes were extracted from Edgewood files; students' names covered and scores xeroxed.

Original pretest and posttest printouts, including students' names, were compared and scores for children who were absent for either pretest or posttest were eliminated from the study. In April, questionnaires were sent to administrators, teachers and trained teacher aides to subjectively evaluate Reading 301 and Reading 302.

Data Treatment

The nonrandomized pretest-posttest control group described by Borg and Gall (Leedy, 1974:151) was selected as the paradigm for this study. The two groups comprised the experimental and control groups. Aides were not assigned

to these groups nor were they differentially or randomly selected. The aides who received training in 1974-75 were designated experimental and the aides who did not receive training were designated control. K-2 students who were the recipients of these aides' assistance were used in the study.

Both the experimental and control groups received pretesting. The experimental group received specific training, Reading 301 and Reading 302. The control group received no training. Both groups received posttesting.

In the present study the specific training received by the teacher aides constituted the independent variable. Assigned variables were the students' grade levels and initial achievement levels as determined by the pretest scores. Controlled variables were the achievement gains as determined by the pretest-posttest scores on the San Antonio College Test for Reading Aides, Nelson-Denny Reading Test, TOBE and CTBS. The effect of the independent variable and influences of the assigned variables upon the dependent variables was investigated.

When considering sources of internal validity of this design the following cirsumstances served to add control to the study: the contemporary history, measuring instruments, maturation, and pretesting were experienced by all groups; hence, the effect of these variables was equalized and cannot be mistaken for the effect of the treatment.

When considering the external validity of this design the following circumstances served to add control to the study: schools and students chosen in this investigation were not selected. They were used because the aide sample worked in them and served K-2 classrooms. All teacher aides volunteered for training. Some received it in 1974-75. The rest were promised training in 1975-76.

The design for this investigation provided adequate controls for internal and external validity. Therefore, the findings of the study should be generalizable to other paraprofessionals indigenous to the school community, given similar training.

Experimental and Control data were collected from the San Antonio College Test for Reading Aides, Nelson-Denny Reading Test, TOBE, and CTBS pretest and posttest. From these instruments the collected data were punched on tabulation cards. The facilities of the University of Texas Computation Center were used to carry out the data processing and to provide a printout of the results of the statistical analyses.

Comparisons of the achievement gains made by the treatment groups were examined. Analysis of covariance was used to test for significant differences among the means of these groups. The .05 level of significance was chosen for rejection of the null hypotheses.

Conclusions

The conclusions resulting from the four stated hypotheses and those emanating from the program evaluations completed by administrators, teachers, and trained aides follow.

Hypothesis 1

Paraprofessional reading aides will acquire proficiencies associated with the teaching of reading as a result of a training program which emphasizes reading fundamentals, diagnosis, and remediation.

The results supported this hypothesis. The mean score for teacher aides who were specifically trained in reading fundamentals, diagnosis, and remediation as measured by the San Antonio College Test for Reading Aides differed significantly from the untrained group. The implication of this finding is that teacher aides can be trained to develop the skills and understandings necessary for the teaching of reading from an inservice training program in reading fundamentals, diagnosis, and remediation. It may be possible also to train teacher aides in other academic areas with similar result so that they can contribute optimally to the total school curriculum. Another implication of this finding is that achievement tests might be administered to aides to determine the most effective placement of teacher aides within a school setting by capitalizing on their areas of strength.

Hypothesis 2

Paraprofessional reading aides will significantly improve their own reading abilities as a result of training program which emphasized reading fundamentals, diagnosis and remediation.

The results supported this hypothesis. The reading achievement of trained teacher aides, as measured by the Nelson-Denny Reading Test, differed significantly when compared with a group of untrained aides. Both their vocabulary and comprehension mean scores increased significantly. The implication of this finding is that programs of this type may increase the reading achievement of the aides. This means that programs designed to train teacher aides to teach reading may also be used to improve their communication skills. (See Tables 1 and 2)

Hypothesis 3

K-1 students who receive paraprofessional assistance in reading by trained aides will show greater gains in achievement than K-1 students who receive paraprofessional assistance in reading by untrained aides as determined by pretest-posttest gain scores on the TOBE.

The results supported this hypothesis. Kindergarten students assisted by specifically trained aides scored significantly higher on the language subtest of the TOBE than did a control group of kindergarten students assisted by untrained aides. Grade one students assisted by specifically trained aides also scored significantly higher on the language subtest of the TOBE than did a control group of grade one students assisted by untrained aides.

These findings suggest that kindergarten and grade one students will improve their language performance if they are assisted by teacher aides specifically trained in reading fundamentals, diagnosis, and remediation.

Hypothesis 4

Grade two students who receive paraprofessional assistance in reading by trained aides will show greater gains in achievement than grade two

TABLE 1

Summary of Descriptive Data Regarding Teacher Aides Raw Score Means and Standard Deviations from Pretests and Posttests on the San Antonio College Test for Reading Aides and Nelson-Denny Reading Test

Treatment Group	Control 1		Experimental 2	
Number	37		59	
S.A.C. Test for Reading Aides	Pre	Post	Pre	Post
Mean	21.32	24.35	22.97	72.58
S.D.	11.36	12.03	8.40	11.44
Nelson-Denny Reading Test				
Vocabulary Mean	14.24	16.35	19.46	27.95
S.D.	9.59	9.52	9.03	11.39
Comprehension Mean	18.86	16.86	22.92	23.02
S.D.	12.14	9.20	8.53	9.25
Total Mean	30.41	30.51	42.37	50.97
S.D.	17.01	13.64	15.56	18.19

TABLE 2

Adjusted group means of Control and Experimental Groups on the San Antonio College Test for Reading Aides and Nelson-Denny Test

Adjusted group means	S.A.C. Test Total	Nelson-Denny Vocab.	Nelson-Denny Comprehension	Nelson-Denny Total
Control	25.237	19.591	18.395	36.715
Experimental	72.021	25.918	22.057	47.077
F	749.9*	30.05*	6.08*	23.20*
p	.000	.000	.015	.000
df	(1, 93)	(1, 93)	(1, 93)	(1, 93)

*Significant

students who receive paraprofessional assistance in reading by untrained aides as determined by pretest-posttest gain scores on the CTBS.

The results supported this hypothesis. Students assisted by trained aides scored significantly higher on the reading and language subtests of the CTBS than did a control group of grade two students assisted by untrained aides. Their reading vocabulary and comprehension scores increased significantly. Their language mechanics, expression and spelling scores also increased significantly.

These findings imply that grade two students will increase their reading and language achievement if they are assisted by teacher aides specifically trained in reading fundamentals, diagnosis, and remediation. Since grade two students were able to profit from this kind of assistance it is reasonable to assume that pupils in other grades would also profit from assistance rendered by trained teacher aides. (See Tables 3, 4, 5 and 6)

TABLE 3

Summary of Descriptive Data Regarding Students' Raw Score Means and Standard Deviations from Pretests and Posttests on the TOBE, language subtest

Treatment Group	Grade	Number	Pretest Mean S.D.	Posttest Mean S.D.
Control 1	Kgn.	125	14.31 4.24	19.33 5.50
	1	197	18.41 3.87	20.92 4.40
Experimental 2	Kgn.	293	12.18 5.04	20.27 5.39
	1	233	15.81 4.54	22.32 4.12

TABLE 4

Adjusted group means of Control and Experimental Groups on the Tests of Basic Experiences (TOBE), Language subtest

	Kindergarten	Grade One
Adjusted group means Control Experimental	18.876 20.463	20.707 22.505
F	7.70*	17.61*
p	.006	.000
df	(1, 415)	(1, 427)

*Significant

TABLE 5

Summary of Descriptive Data Regarding Students' Raw Score Means and Standard Deviations from Pretests and Posttests on the CTBS, language and reading subtests

Treatment Group	Control 1		Experimental 2	
Grade	2		2	
Number	202		221	
CTBS Language	Pre	Post	Pre	Post
Mechanics Mean	7.66	8.80	6.76	9.91
S.D.	3.38	4.26	3.31	4.86
Expression Mean	8.70	11.01	8.95	13.03
S.D.	4.32	5.00	5.35	6.11
Spelling Mean	6.23	8.81	8.24	11.17
S.D.	2.86	4.99	6.62	6.59
Total Mean	22.59	28.63	24.00	34.04
S.D.	7.72	11.60	13.01	14.91
CTBS Reading				
Vocabulary Mean	11.99	12.66	9.24	15.98
S.D.	6.65	7.15	5.98	7.39
Comprehension Mean	12.95	14.37	11.92	17.99
S.D.	4.33	5.35	6.49	7.48
Total Mean	24.93	27.02	21.15	34.00
S.D.	9.77	11.44	9.12	12.97

TABLE 6

Adjusted group means of Control and Experimental Groups on the Comprehensive Tests of Basic Skills (CTBS), Language and Reading subtests

	Language				Reading		
Adjusted group means	Mech.	Express.	Spell.	Total	Voc.	Comp.	Total
Control	8.739	11.040	9.134	28.890	12.049	14.259	26.293
Experimental	9.968	12.995	10.878	33.802	16.540	18.084	34.664
F	7.49*	13.46*	9.40*	15.12*	41.68*	36.54*	51.14*
P	.007	.001	.003	.000	.000	.000	.000
df	(1, 420)	(1, 420)	(1, 420)	(1, 420)	(1, 420)	(1, 420)	(1, 420)

*Significant

Program Evaluation via questionnaire results

The program in its entirety was well received by administrators, teachers, and aides as was indicated by their responses on the questionnaires. The majority of administrators understood the program objectives, were highly enthusiastic about the program, and were aware of the specific contributions that the aides were making. The only negative aspect reflected by the administrators related to aide release time. They disapproved of aide training time during the school day and would have preferred that the training be scheduled after school hours.

The teachers were almost unanimous in their acceptance of the program. The majority of teachers felt that the "reading fundamentals" learned by the aides were most helpful and enabled the aides to function without additional training and with very little guidance. They utilized the aides to work on reading skills with whole classes, small groups, and with individual pupils. In addition, because of the aides' help, the teachers reported that they were able to devote more time to pupils who needed individual help.

The teacher aides involved in the training program responded favorably to their experiences. They felt that they personally gained so much from their training that they thought all teacher aides in the school district should receive similar training. In addition, they expressed a desire for more training in reading instruction.

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DEVELOPMENT AND EVALUATION OF A JUNIOR COLLEGE READING PROGRAM TO TRAIN TEACHER AIDES

Marcia Gormick Epner, Ph.D.
The University of Texas at Austin, 1975

Supervising Professor: William R. Harmer

The purpose of this study was to evaluate the effectiveness of a two semester junior college reading program designed to train teacher aides to assist professionals in reading programs.

The nonrandomized pretest-posttest control group design described by Borg and Gall was selected as the paradigm for this study. Data were collected, tabulated, analyzed and interpreted in an effort to determine the effect of a two semester junior college reading program upon Edgewood Independent School District teacher aides and the students whom they assisted.

The specific training received by the teacher aides constituted the independent variable. Assigned variables were the students' grade levels and initial achievement levels as determined by the pretest scores. Controlled variables were the carefully identified teacher aides and the students who received their assistance. The dependent variables were the achievement gains as determined by the pretest-posttest scores on the criterion referenced test, Nelson-Denny Reading Test, Tests of Basic Experiences, and Comprehensive Tests of Basic Skills.

The following null hypotheses were presented, followed by figures which supplied the results of analyzed data:

Hypothesis 1: No significant mean score differences in acquired proficiencies associated with the teaching of reading, as measured by a

criterion referenced test, will result from a training program for paraprofessional reading aides when compared with a control group.

Hypothesis 2: No significant mean score differences in reading ability of aides, as measured by the Nelson-Denny Reading Test, will result from a training program for paraprofessional reading aides when compared with a control group.

Hypothesis 3: No significant mean score differences in language ability of kindergarten and grade one students, as measured by the TOBE, will result from a training program for paraprofessional reading aides when compared with a control group.

Hypothesis 4: No significant mean score differences in language and reading ability of grade two students, as measured by the CTBS, will result from a training program for paraprofessional reading aides when compared with a control group.

Comparisons of the achievement gains made by the treatment groups were examined. Analysis of covariance was used to test for significant differences among the means of these groups.

The .05 level of significance was chosen for rejection of the null hypotheses.

Results showed that all of the computed F values exceeded the critical value. Differences between the performance of the control and experimental groups were significant. Null hypotheses 1, 2, 3, and 4 were rejected.

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S.D.	6.65	7.15	3.98	7.39
Comprehension Mean	12.95	14.37	11.92	17.99
S.D.	4.33	5.35	6.49	7.48
Total Mean	24.93	27.02	21.15	31.69
S.D.	9.77	11.44	9.12	12.92

TABLE 6

Adjusted group means of Control and Experimental Groups on the Comprehensive Tests of Basic Skills (CTBS), Language and Reading subtests

	Language				Reading		
Adjusted group means	Mech.	Express.	Spell.	Total	Voc.	Comp.	Total
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F	7.49*	13.46*	9.40*	15.12*	41.68*	36.54*	51.14*
P	.007	.001	.003	.000	.000	.000	.000
df	(1, 420)	(1, 420)	(1, 420)	(1, 420)	(1, 420)	(1, 420)	(1, 420)

*Significant